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So 3 U UPPER DESCHUTES RIVER Copy 2 CROOKED RIVER WATERSHEDS

WATER SUPPLY OUTLOOK as of

APRIL 1, 1955

U.S. SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

SUMMARY

TBRAR MECEIVED JAN ? 1957 # S. DEPT. OF ABRICULTURE

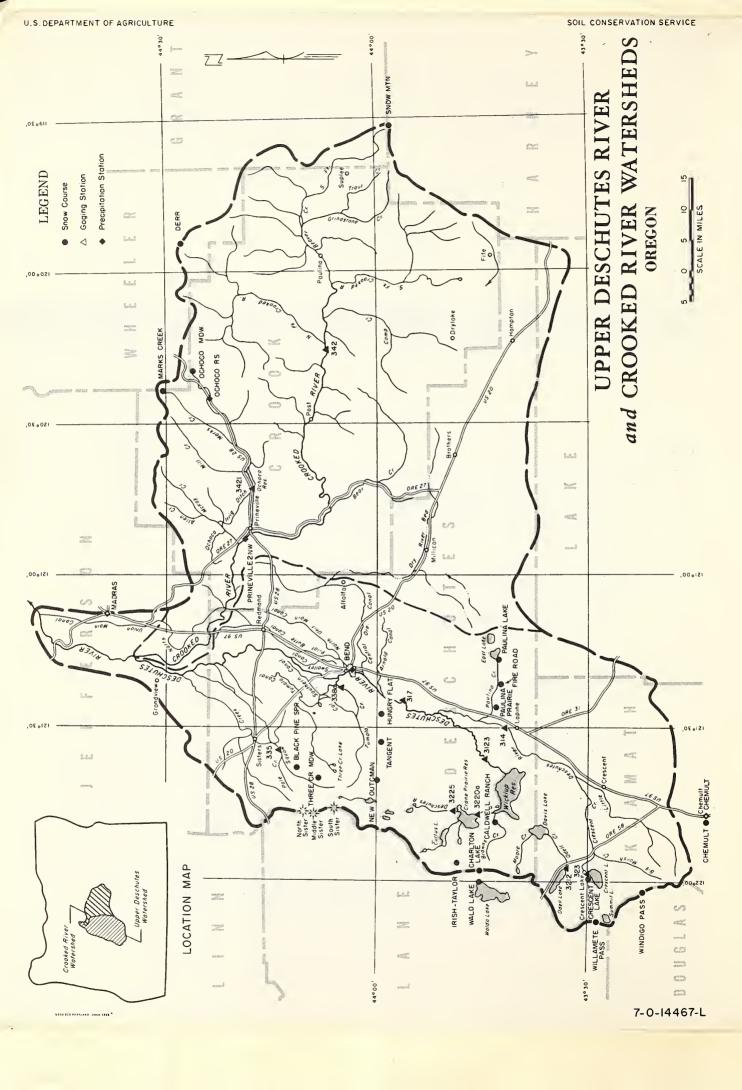
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- Water Supply Outlook: Lands served from Upper Deschutes River and reservoirs will have adequate supplies. Late rights on Squaw Creek will be short. Crooked River will produce a very short supply this year with Ochoco Reservoir providing just barely enough water for its water users.
- 2 Streamflow Forecasts: Forecasts in Upper Deschutes vary from 72

 percent on the Little Deschutes to 89 percent on the main

 stem and 86 percent for Squaw Creek. Crooked River will produce only 30 percent of its average flow while inflow to Ochoco

 Reservoir will be about half its average production.
- 2 Reservoir Storage: Storage on the Deschutes is in excellent condition with adequate water in sight for all users. Ochoco Reservoir fortunately has a heavy hold-over from last season.
- 2 Soil Moisture: Watershed soils are exceptionally dry except for top few inches which have been moistened by recent snow-melt water.
- Snow-Cover: The snow-pack is 84 percent average on these two basins but much snow-melt water will be taken up by dry soils before streamflow gets under way.
- Precipitation: Fall precipitation in these basins was 41 percent while winter precipitation has been 45 percent average. This area of the state has been the driest this past winter of any in the state.



WATER SUPPLY OUTLOOK For April-September, 1955a

Source of Water	Acreage Irrigate	
Upper Deschutes River Basin Crescent Lake	500	Adequate water from this source is assured the Walker Basin Irrigation Company for lands near Lapine.
Deschutes River	4,234	Swalley Ditch (Deschutes Reclamation and Irrigation Company) is assured an adequate water supply.
Deschutes plus Crane Prairie Res.	· 46,500	Arnold and Central Oregon Irrigation Districts will be adequately supplied from this source.
Deschutes plus Crescent Lake plus Tumalo Res.	6,830	Tumalo Project (Deschutes County Municipe) Improvement District) will have adequate water.
Deschutes plus Wickiup Res.	50,000	Adequate water is assured for North Unit lands in Jefferson County with Wickiup Reservoir full.
Three Creeks Lake	550	Satisfactory water supplies available for Snow Creek diversion.
Squaw Creek	9,800	Adequate for all lands except late rights which will run short early in season. Plainview-McAllister Ditch shut off by early July.
Sqaw and Pole Creeks	1,350	Adequate water for lands of the old Sisters Irrigation District.
Crooked Riwer Basin		
Bear Creek	2,500	Snow-cover very short and water outlook exceptionally poor. Perhaps enough water available for one irrigation.
Crooked River	35,000	Enough water for one short irrigation only. Summer rains badly needed to help.
Ochoco and McKay Creeks	8,500	Streamflow to be very short and fall off early but lands served from Ochoco Reservoir have a chance of getting by this year

a - Assuming normal meteorological conditions during the April - September period.

STREADFLOW FORECASTS^a As of April 1, 1955

	Gaging Station	Seasonal S	Streamflow in	1000 a.f.	1955
		Forecast	Forecast	Avg.	as %
No.	Name	1955	Period	1943-52	of Avg.
		20.0			m)
323	Crescent Cr. at Cres. Lk.*	20.0	AprSept.	27.2	74
314	L. Deschutes R., nr. Lapine*	77.5	AprSept.	107.7	72
314	L. Deschutes R., nr. Lapine*	71.0	AprJuly	94.1	75
3212	Odell Cr. nr. Crescent	29.4	AprSept.	33.3	88
3225	Deschutes R., below Snow Cr.	60.0	AprSept.	71.8	84
3220a	Crane Prairie Res., net inflow Deschutes R., at Benham Falls*	120.0	AprSept.	136.7 ^b 560.8	88
317	Deschutes R., at Bénham Falls*	498.0	AprSept.	560.8	89
317	Deschutes R., at Benham Falls*	338.0	AprJuly	377.6	90
338a	Tumalo Cr., nr Bend*	42.0	AprSept.	55.4	76
335	Squaw Cr., nr. Sisters	46.0	AprSept.	53.7	86
3421	Ochoco R., net inflow	10.5	AprSept.	34.5	30
342	Crooked R., nr. Post	74.0	AprSept.	133.9	55
	* Corrected to natural flow	b - 1952 e	excepted		

RESERVOIR STORAGE

Reservoir	Usable Capacity 1000 a.f.	Thousan	d a.f. in	storage 1953	about April 1, 10 Yr. Avg. 1943-52	1955 1955 as % of 10 Yr. Avg.
Ochoco Crescent Lake Crane Prarie Wickiup	46.0 54.9 55.3 187.3	23.2 23.1 1/ 49.0 194.2	46.8 38.7* 56.2 199.8	46.8 52.0 50.7 199.1	31.1 45.8 41.8 112.5	75 50 117 173
Total (4 Reservoirs) * Spilling	343.5 <u>1</u> / Const	289.5	341.5	348.6	231.2	

SOIL MOISTURE

Soils in:	Fall Status	Current status as of April 1, 1955
Lower Valleys	Very dry	All watershed soils are still exception-
Upper Valleys	Very dry	ally dry except where recent snow-melt
Nountains	Very dry	water has wet the top few inches.

SNOW COVER As of April 1, 1955

	Snow Course					Content	(in)	1955
No.	Name	Elev.	Snow Depth (in)	Water Content (in)	1954	1953	Average	as % of Avg.
	Deschutes River B	asin						
~~~	below 5000!							
	Black Pine Spg.*	716001	20	7.2	2.7	1.2	4.5	160
21F8	Caldwell Ranch	7700;	25	7•9	10.6	14.7	9.2	86
22F3	Cascade Summit	4880	82	32.1	37.8	34.8	31.9	101
	Chemult	47601	15	4.9	11.6	16.3	10,0	49
21F9	Crescent Lake	47601	35	13.2	13.3	14.5	10.7	123
21F4	Hungry Flat*	74001	11	5.6	8.0	3.1	5•5	102
21F15	Paulina Prairie*	· 42851	Ð	0.0		rious re	cord	
	Average			11.8	14.0	14.1	12.0	98
~~~	above 5000 *							
21F7	Charlton Lake	57501	89	31.4	33•3	34.7	28.9	109
	Fire Road**	5050	15	6.2	No prev	ious re	cord	
21F6	Irish-Taylor*	5500°	98	37.9	42.4	46.9	51.0	74
21F2	New Dutchman Flat	•	111	43.7	60.2	64.8	53.1	82
21F13	Paulina Lake**	6330!	39	14.1	No prev			
21F3	Tangent*	54001	49	16.6	26.0	27.6	30.2	55
21E13	Three Ck. Mdws.	56001	-55°	19.6	24.3	22.6	20.9	94
22F2	Waldo Lake	5500°	87	30.9	33.4	34.5	30.0	103
22F14	Willamette Pass	56001	98	38.4	53.1	50.0	49.2	78
22F15	Windigo Pass	58001	104	37.7	52.2	54.0	54.7	69
	Average		Will-mad.	32.0	40.6	41.9	39.8	80
Av	erage (14 Snow Cou	rses)	(These)	23.4	29.2	30.0	27.8	84
Crook	ed River Basin							
19E3	Derr	56701	29	9.1	9.2	12.8	10.6	86
20E1	Marks Creek	45401	9.5	2.8	1.6	0.7	3.0	93
20E2	Ochoco Mdws.	52001	29	8.5	8.1	12.2	9.6	89
19F1	Snow Mountain	63001	36	11.6	12.3	16.2	14.9	78
-	erage (4 Snow Cour			8.0	7.8	10.5	9.5	84
* Short record ** No record; not included in averages								

PRECIPITATION DATA 1954-55

Station]	reci	oitati	ion (inches	3)			Avg. as %
Name	Elev.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Avg.	Normal*	of Normal
Bend	3599	0.75	0.38	0.13	0.59	0.61	0.07	0.36	0.41	1.28	32
Chemult	4760	0.14	0.34	0.21	2.13	1.56	0.72	0.87	1.00	3.01	33
Madras	2300	0.64	0.47	0.41	0.10	0.27	0.21	0.40	0.36	0.88	41
Ochoco RS	3979	0.33	0.79	0.86	2.09	1.57	1.06	1.28	1.14	1.70	67
Prineville 2NW	2868	0.62	0.44	0.46	0.43	0.70	0.27	0.32	0.46	0.83	55
Average		0.50	0.48	0.61	1.07	0.94	0.47	0.65	0.67	1.54	44
Avg. Normal*		0.72	1.07	2.11	2.10	1.84	1.72	1.22			
Avg. as % of			45%	29%	51%	51%	27%	53%			
	Oct-No	all v)	41%								
*Based on USWB data											

